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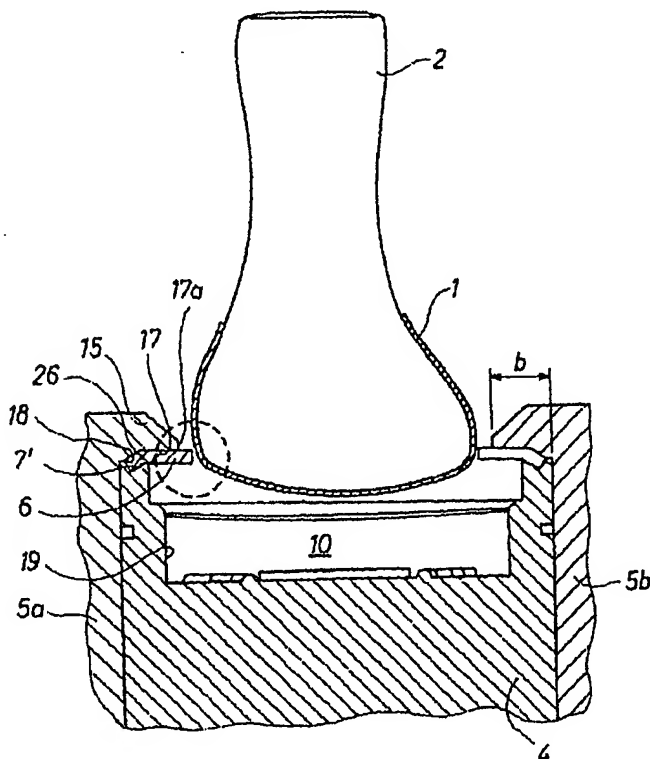
- (51) International Patent Classification⁷: **B29D 31/50** (74) Agent: **CHAS. HUDE A/S**; H.C. Andersens Boulevard 33, DK-1780 Copenhagen V (DK).
- (21) International Application Number: **PCT/DK2003/000133** (81) Designated States (*national*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
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PA 2002 00329 **4 March 2002 (04.03.2002)** **DK**
- (71) Applicant (*for all designated States except US*): **ECCO SKO A/S [DK/DK]**; Industrivej 5, DK-6261 Bredebro (DK).
- (72) Inventors; and
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- Declaration under Rule 4.17:
— of inventorship (Rule 4.17(iv)) for US only

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[Continued on next page]

- (54) Title: METHOD OF MOULDING SOLES ON SHOE UPPERS, A SHOE WELT AND A MOULD FOR CARRYING OUT THE METHOD**



(57) Abstract: In a method of moulding a sole of a plastic material and a welt on a shoe upper (1) a mould (3) is used. The mould (3) includes at last (2), upon which a shoe upper (1) is arranged, an upper mould part (5) divided along a longitudinal middle plane and thus includes two halves (5a, 5b) being laterally movable in relation to the lower mould part (4) between an open and a closed mould position, and a lower mould part (4) being vertically movable in relation to the upper mould part (5) between an open and a closed mould position. For carrying out the method an annular shoe welt (6) is provided and arranged in the mould in the mould's open position. The two halves (5a, 5b) of the upper mould part (5) are closed and the lower mould part is moved into its closed position. As a result a circumferential support surface (7) on the upper face of the lower mould part (4) co-acts with a pressure surface (17) on the lower face of a projection (15) on each half (5a, 5b) of the upper mould part such that the portion of the welt (6) facing the shoe upper (1) is tilted inwards and downwards to bring the inner end face of the welt (6) into sealing engagement with the lower side section of the shoe upper (1). The shoe sole is then moulded in a manner known per se by supplying a plastic material to the cavity of the mould.

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INTERNATIONAL SEARCH REPORT

International Application No
PCT/DK 03/00133

A. CLASSIFICATION OF SUBJECT MATTER IPC 7 B29D31/50		
According to International Patent Classification (IPC) or to both national classification and IPC		
B. FIELDS SEARCHED Minimum documentation searched (classification system followed by classification symbols) IPC 7 B29D		
Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched		
Electronic data base consulted during the international search (name of data base and, where practical, search terms used) EPO-Internal		
C. DOCUMENTS CONSIDERED TO BE RELEVANT		
Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	WO 84 04444 A (CARTER INT INC) 22 November 1984 (1984-11-22) page 5, line 8 - line 22 page 6, line 13 - line 31 abstract; claim 1; figures 1-8 ---	1-9, 13-16
A	GB 1 258 966 A (THE BRITISH UNITED SHOE MACHINERY COMPANY LIMITED) 5 January 1972 (1972-01-05) claims 1-12; figures 1-7 ---	1-9, 13-16
A	GB 797 746 A (HERBERT LUDWIG) 9 July 1958 (1958-07-09) claims 1-22; figures 1-5 ---	1-9
A	GB 840 029 A (DHG ANTONIO NOVA) 6 July 1960 (1960-07-06) claims 1-4; figures 1-7 ---	1-9, 13-16
-/-		
<input checked="" type="checkbox"/> Further documents are listed in the continuation of box C. <input checked="" type="checkbox"/> Patent family members are listed in annex.		
* Special categories of cited documents : "A" document defining the general state of the art which is not considered to be of particular relevance "E" earlier document but published on or after the international filing date "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another claim or other special reason (as specified) "O" document referring to an oral disclosure, use, exhibition or other means "P" document published prior to the international filing date but later than the priority date claimed "T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention "X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art. "Z" document member of the same patent family		
Date of the actual completion of the international search 13 May 2003		Date of mailing of the international search report 29. 10. 2003
Name and mailing address of the ISA European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Tx. 31 651 epo nl, Fax (+31-70) 340-3015		Authorized officer FREDRIK ANDERSSON

INTERNATIONAL SEARCH REPORT

International Application No

PCT/DK 03/00133

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 3 855 657 A (MAZZOTTA G) 24 December 1974 (1974-12-24) abstract; claims 1-11; figures 1-7 ---	1-9, 13-16
A	US 4 217 081 A (ROONEY JOHN P) 12 August 1980 (1980-08-12) abstract; claims 1-6; figures 1-3 -----	1-9, 13-16

INTERNATIONAL SEARCH REPORT

International application No.
PCT/DK 03/00133

Box I Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos. :
because they relate to subject matter not required to be searched by this Authority, namely:

2. ☐ Claims Nos. :
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:

3. ☐ Claims Nos. :
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

1. ☐ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.

2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee

3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos. :

4. ☒ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos. :

1-9, 13-16

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☐ No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. Claims: 1-9, 13-16

Claims 1-9 relate to a method for moulding soles of a plastic material and claims 13-16 relate to a mould.

2. Claims: 10-12

Claims 10-12 relate to a shoe welt.

INTERNATIONAL SEARCH REPORT
Information on patent family members

International Application No
PCT/DK 03/00133

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
WO 8404444	A	22-11-1984	EP 0143833 A1 WO 8404444 A1	12-06-1985 22-11-1984
GB 1258966	A	05-01-1972	NONE	
GB 797746	A	09-07-1958	NONE	
GB 840029	A	06-07-1960	NONE	
US 3855657	A	24-12-1974	NONE	
US 4217081	A	12-08-1980	NONE	